C6743
Log Data Report

Borehole Information:

Borehole:	C6743		Site:	216-B-55 Crib	
Coordinates (WA St Plane)		GWL[1] (ft):	None	GWL Date:	05/13/08
North (m)	East (m)	Drill Date	TOC[2] Elevation	Total Depth (ft)	Type
Unknown	Unknown	05/13/08	Unknown	50	Cable Tool

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Threaded Steel	0.8	8 5/8	7 11/16	15/32	+0.8	50

Borehole Notes:

The driller reported depth to bottom. Logger measured casing diameter using a caliper and steel tap and rounding to the nearest 1/16-in. The zero reference is the ground surface. This borehole is located approximately 11 ft south of boreholes C5932 and C5942.

Logging Equipment Information:

Logging System:	Gamma 4L		Type: / Serial No.:	SGLS HPGe (60%) / 47TP32211A
Effective Calibration Date:	12/31/2007	Calibration Reference:	HGLP-CC-027	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Logging System:	Gamma 4H with AmBe Source		Type: / Serial No.:	NMLS / H31700352
Effective Calibration Date:	11/06/2007	Calibration Reference:	HGLP-CC-021	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Logging System:	Gamma 4H without AmBe Source		Type: / Serial No.:	PNLS / N310700352
Effective Calibration Date:	N/A	Calibration Reference:	N/A	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2 Repeat		
Date	05/14/08	05/14/08		
Logging Engineer	Spatz	Spatz		
Start Depth (ft)	0.0	28.0		
Finish Depth (ft)	49.0	33.0		
Count Time (sec)	100	100		
Live/Real	R	R		
Shield (Y/N)	N	N		
MSA Interval (ft)	1.0	1.0		
Log Speed (ft/min)	N/A	N/A		
Pre-Verification	DL351CAB	DL351CAB		
Start File	DL351000	DL351050		
Finish File	DL351049	DL351055		

Log Run	1	2 Repeat		
Post-Verification	DL351CAA	DL351CAA		
Depth Return Error (in.)	N/A	0		
Comments	No fine gain adjustment made	None		

Neutron Moisture Logging System (NMLS) Log Run Information:

Log Run	3	4 Repeat		
Date	05/14/08	05/14/08		
Logging Engineer	Spatz	Spatz		
Start Depth (ft)	0.0	28.0		
Finish Depth (ft)	49.75	33.0		
Count Time (sec)	15	15		
Live/Real	R	R		
Shield (Y/N)	N	N		
MSA Interval (ft)	0.25	0.25		
Log Speed (ft/min)	N/A	N/A		
Pre-Verification	DHD92CAB	DHD92CAB		
Start File	DHD92000	DHD92200		
Finish File	DHD92199	DHD92220		
Post-Verification	DHD92CAA	DHD92CAA		
Depth Return Error (in.)	N/A	0		
Comments	None	None		

Passive Neutron Logging System (PNLS) Log Run Information:

Log Run	5	6 Repeat		
Date	05/14/08	05/14/08		
Logging Engineer	Spatz	Spatz		
Start Depth (ft)	0.0	16.0		
Finish Depth (ft)	49.0	21.0		
Count Time (sec)	60	60		
Live/Real	R	R		
Shield (Y/N)	N	N		
MSA Interval (ft)	1.0	1.0		
Log Speed (ft/min)	N/A	N/A		
Pre-Verification	DHE02CAB	DHE02CAB		
Start File	DHE02000	DHE02050		
Finish File	DHE02049	DHE02055		
Post-Verification	DHE02CAA	DHE02CAA		
Depth Return Error (in.)	N/A	0		
Comments	None	None		

Logging Operation Notes:

Data were collected using Gamma 4, HO 68B-3573. SGLS pre- and post-survey verification measurements were acquired in the Amersham KUTh-115 field verifier. NMLS pre- and post-survey verification measurements were acquired in the standard field verifier. PNLS pre- and post-survey measurements were acquired with the detector placed near the AmBe source. A centralizer was installed on the sondes.

Analysis Notes:

Analyst:	LEGLER	Date:	6/18/08	Reference:	GJO-HGLP 1.6.3, Rev. 0

The pre- and post-survey verification spectra met the acceptance criteria for the established systems, but the verification file DHD92CAA had a measurement above the upper control limit for count rate.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual energy peaks and determine count rates. Concentrations were calculated with an EXCEL worksheet template identified as G4LDec07.xls using efficiency functions and corrections casing and dead time as determined by annual calibrations.

Moisture data is converted to volumetric moisture. Passive neutron data is reported in counts per second because calibration is not required.

Results and Interpretations:

Cs-137 was detected at 16-32, 34, 39, and 48 ft, with a maximum concentration of approximately 2,600 pCi/g at 19 ft.

A zone of greater than 40% dead time was encountered from 18–19 ft. Concentrations may be underestimated because the interval is thin.

Moisture data indicates some variability. Passive neutron data indicates no evidence of neutron activity.

The KUT plots indicate good repeatability. The manmade repeat section is at an interval where the detections are near the minimum detectable level for the reported isotope, and indicates some variability.

List of Log Plots:

Depth Reference is Ground surface

Manmade Radionuclides
Natural Gamma Logs
Combination Plot
Total Gamma & Dead Time
Passive Neutron & Moisture
Manmade Repeat Section
Repeat Section of Natural Gamma Logs
Moisture Repeat Section

[1] GWL – groundwater level
[2] TOC – top of casing

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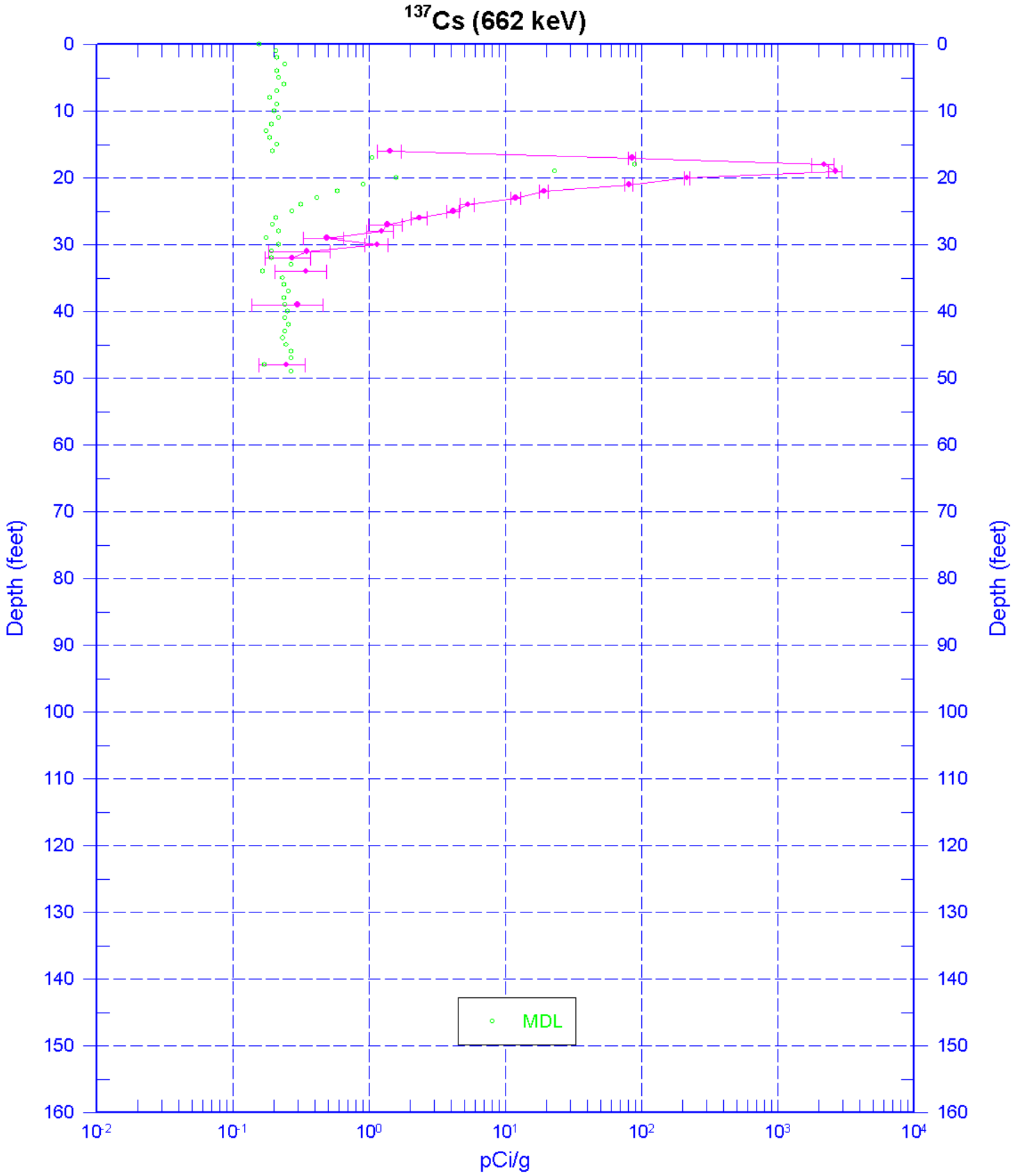
C6743
Manmade Radionuclides



Zero Reference - Ground Surface

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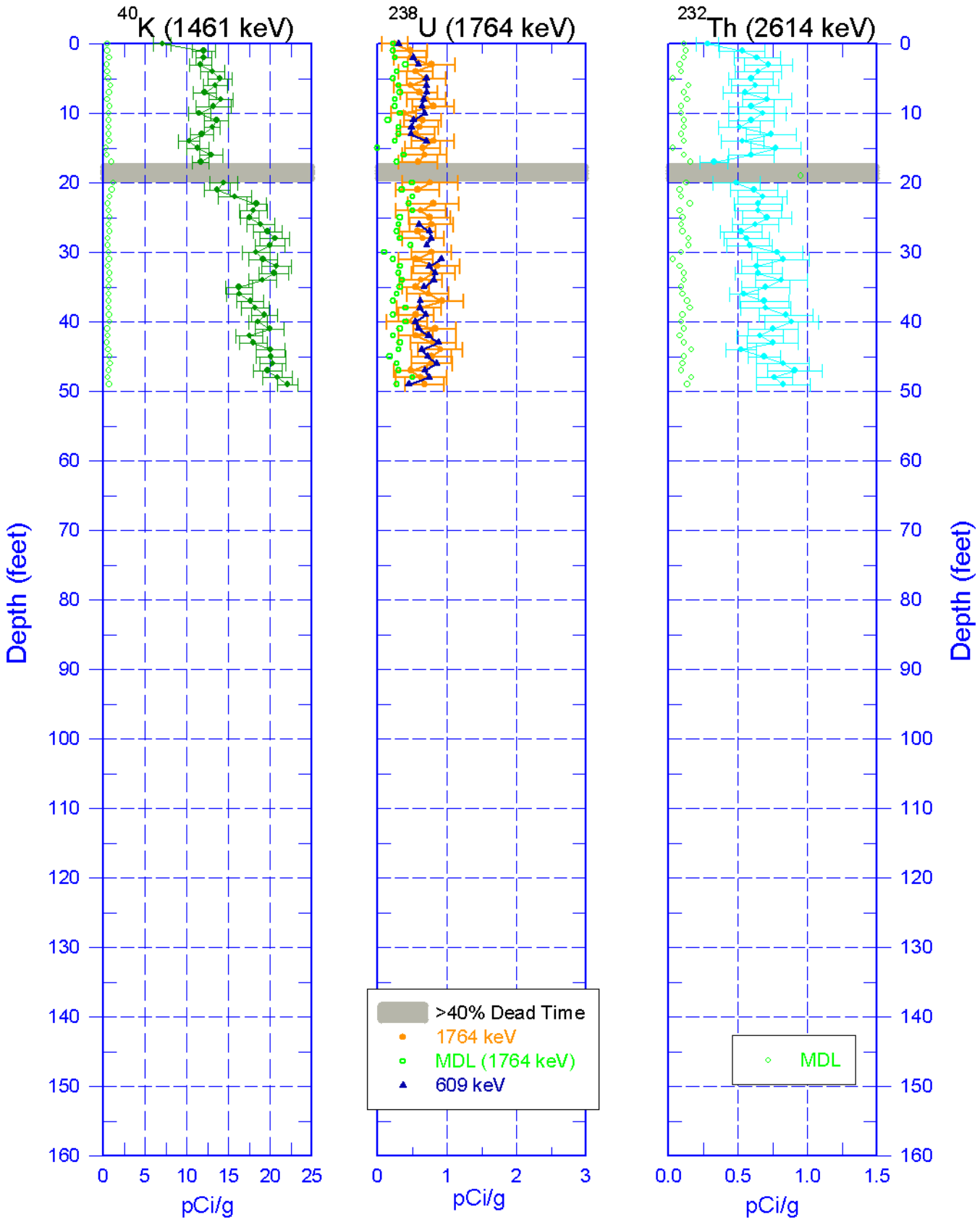
C6743
Natural Gamma Logs



Zero Reference - Ground Surface

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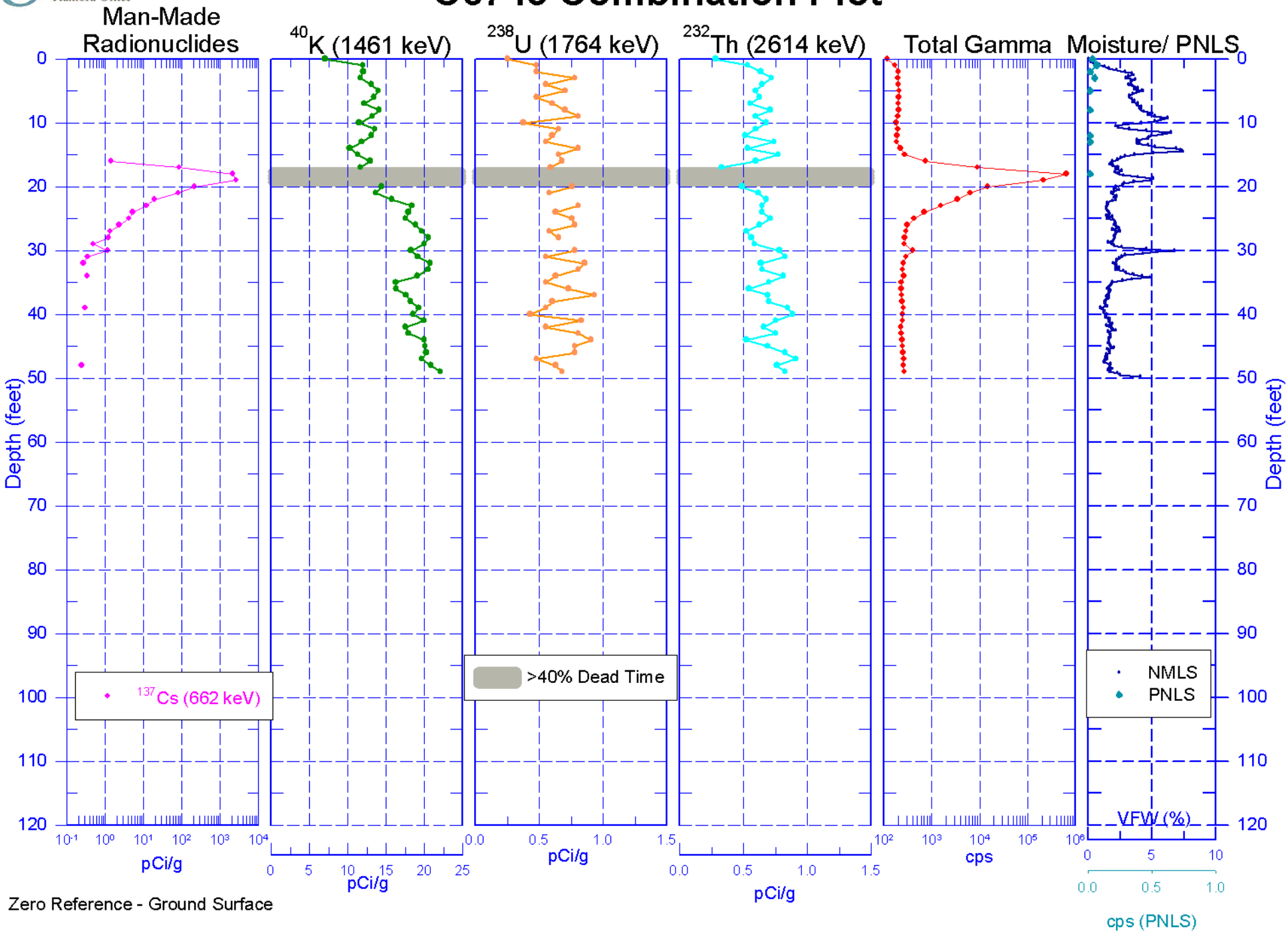
C6743 Combination Plot



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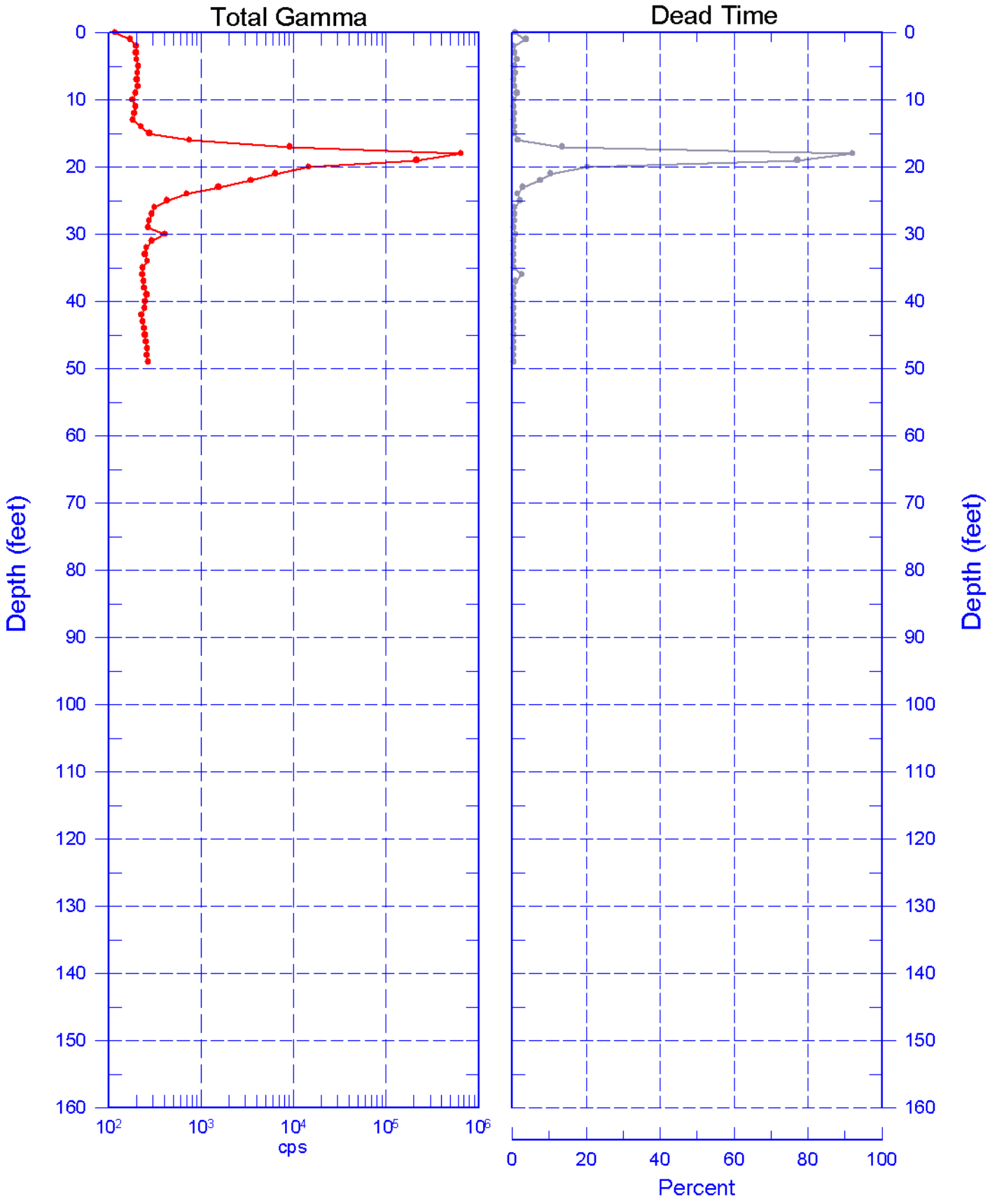
C6743
Total Gamma & Dead Time



Reference - Ground Surface

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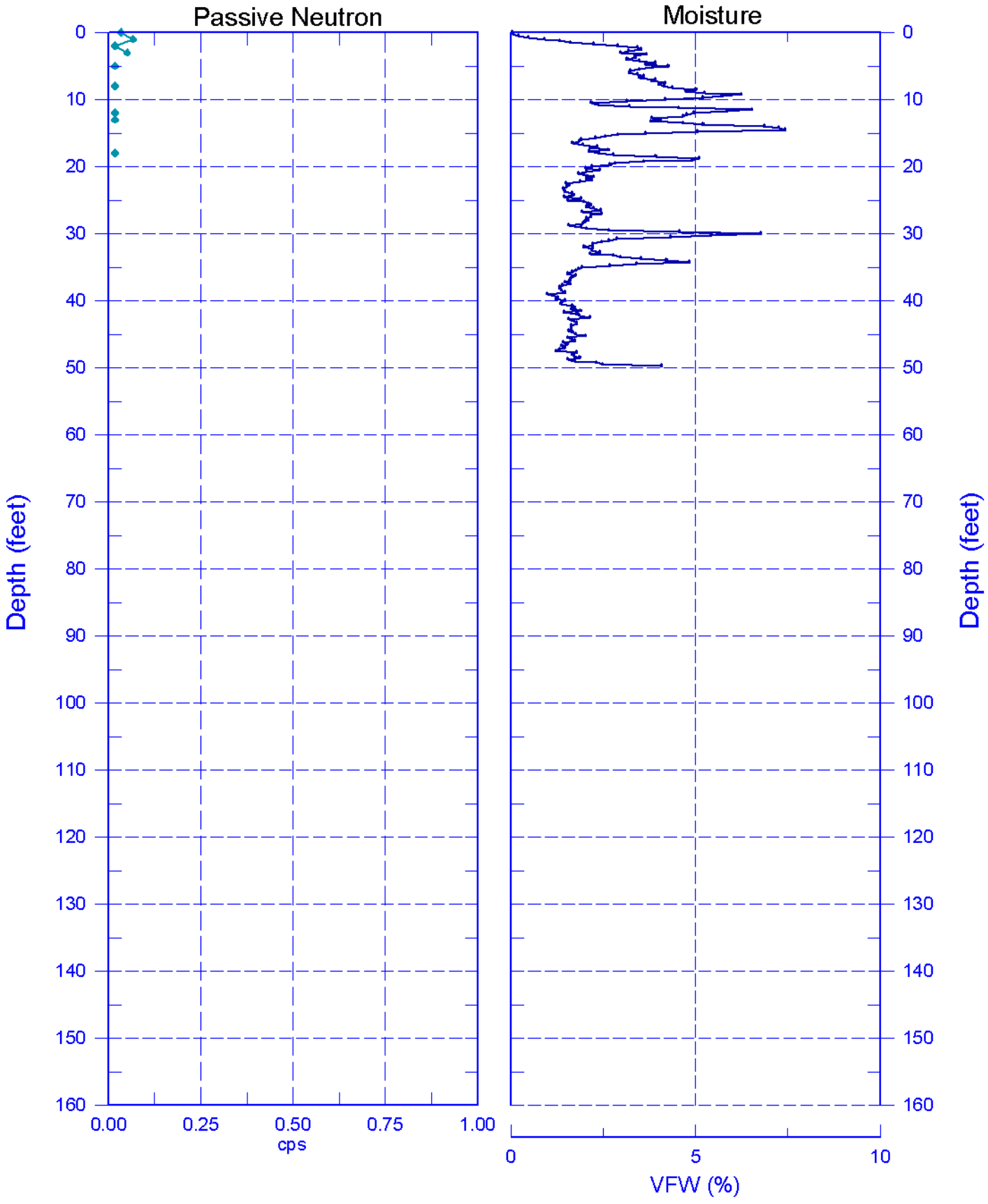
Passive Neutron & Moisture



Reference - Ground Surface

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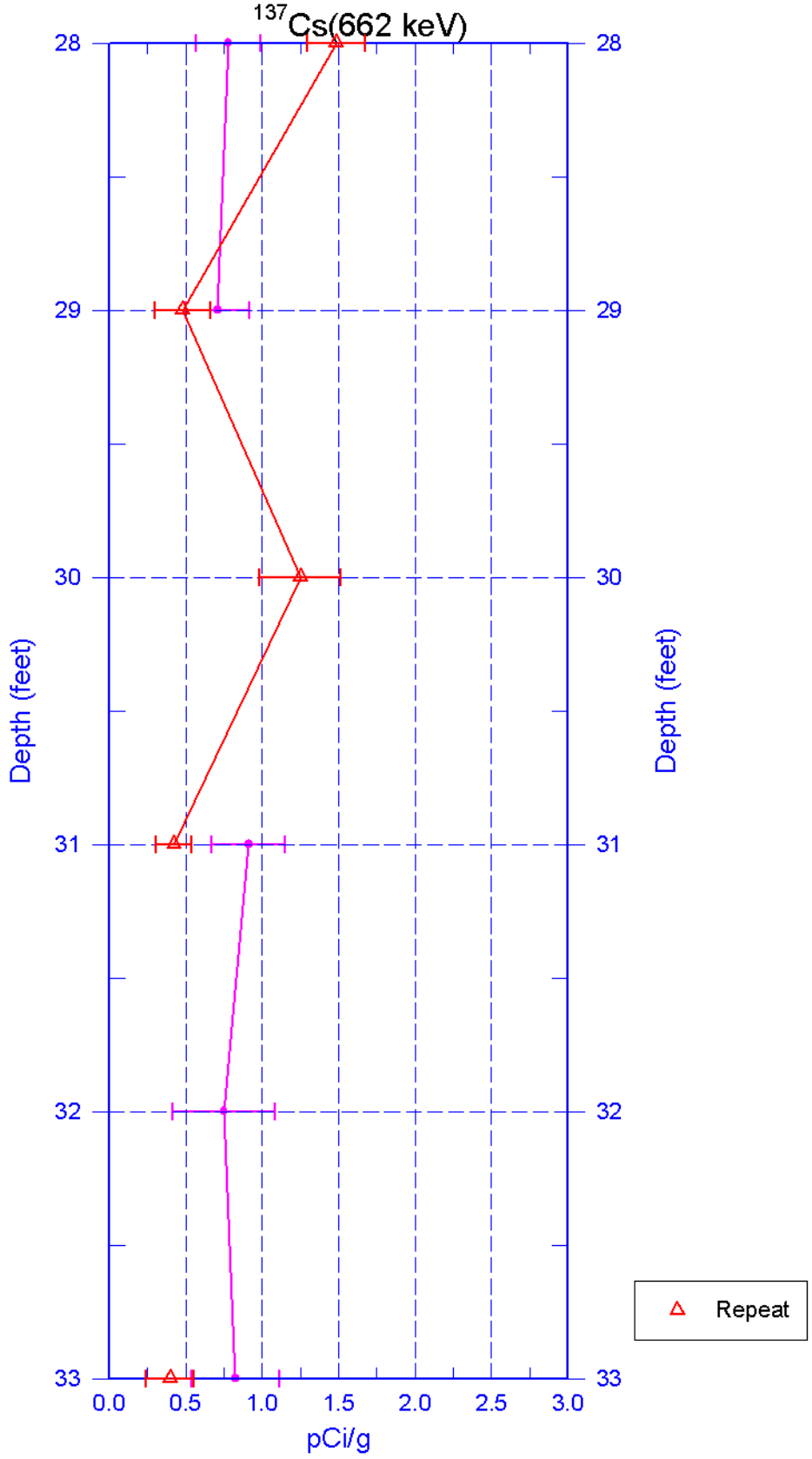
ManmadeRepeat Section



Reference - Ground Surface

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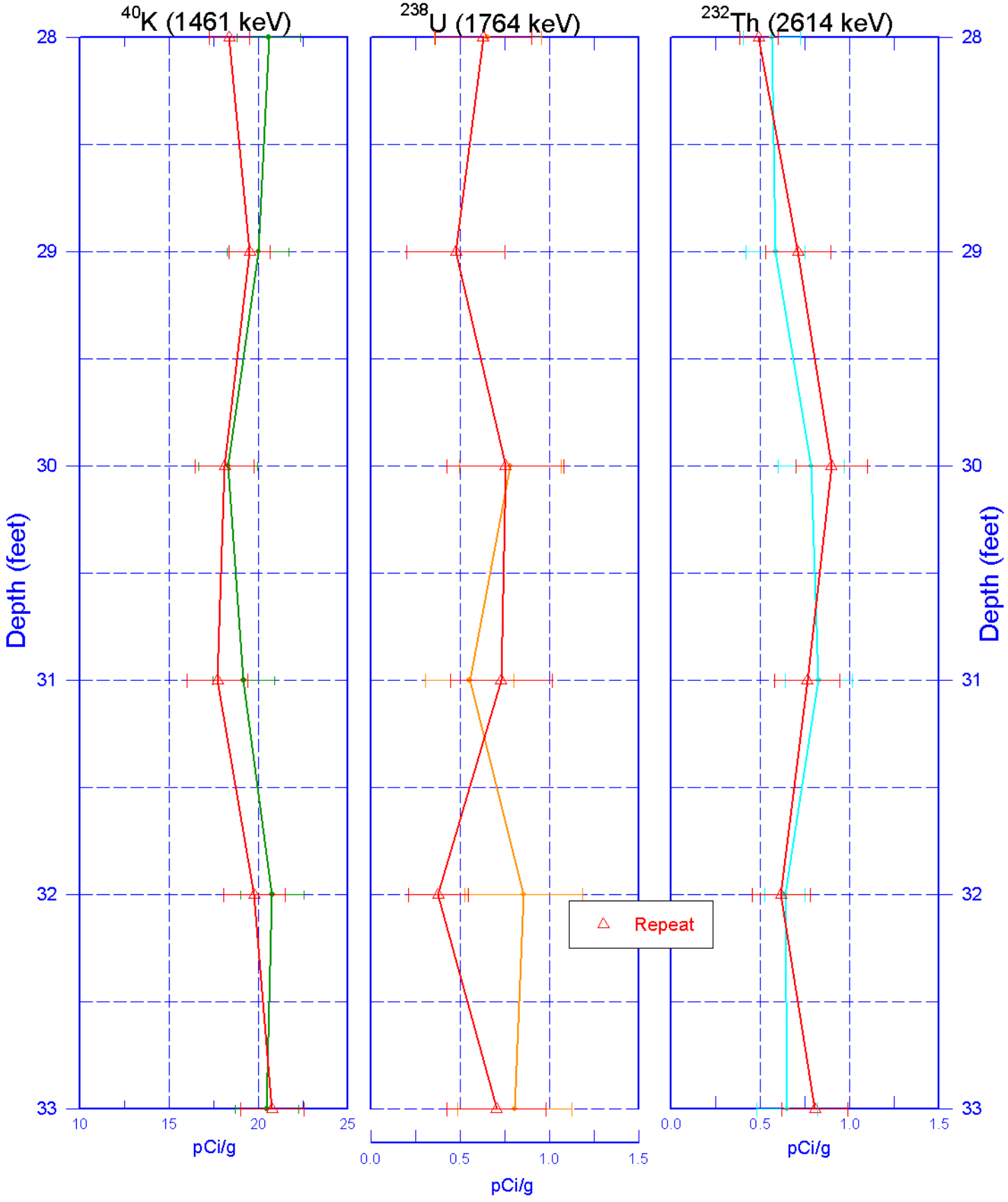
C6743

Repeat Section of Natural Gamma Logs



Zero Reference - Ground Surface

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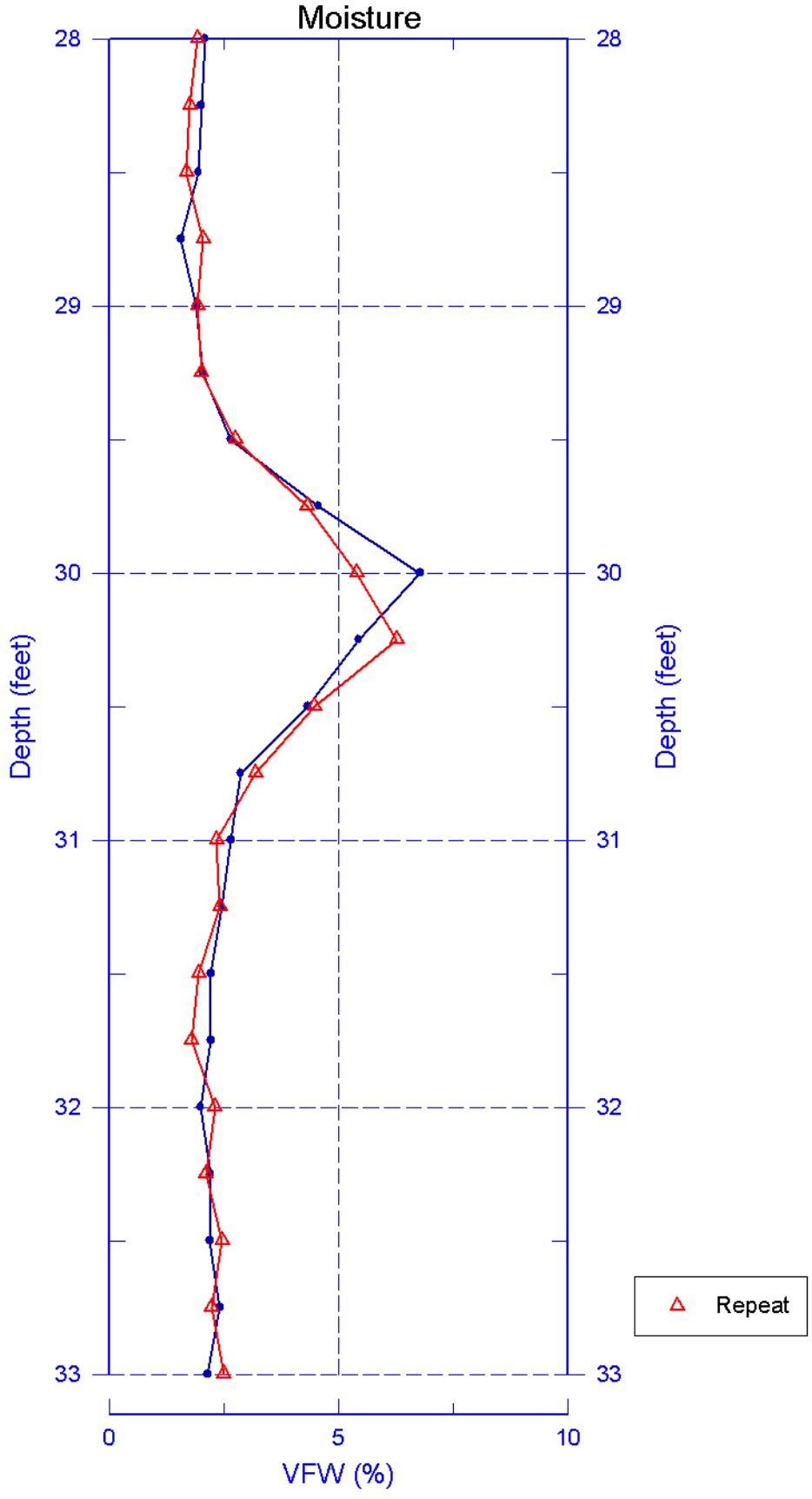
Moisture Repeat Section



Reference - Ground Surface